

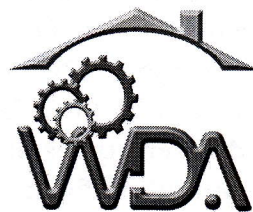
PWO – Water Supply and
Sanitation

T138

Thursday, 12/11/2015

08:30 – 11:30

WORKFORCE DEVELOPMENT AUTHORITY



P.O. BOX 2707 Kigali, Rwanda Tel: (+250) 255113365

**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2015,
TECHNICAL AND PROFESSIONAL TRADES**

EXAM TITLE: Water Supply and Sanitation

OPTION: Public Works (PWO)

DURATION: 3hours

INSTRUCTIONS:

The paper is composed of **three (3) Sections:**

Section **I:** Fourteen (**14**) questions, all **Compulsory.**

55marks

Section **II:** Five (5) questions, **Choose Three (3) only.**

30marks

Section **III:** Two (2) questions, **Choose only One (1).**

15marks

The use of calculator is admitted

**Every candidate is required to strictly obey the above instructions.
Punishment measures will be applied to anyone who ignores these
instructions.**

Section I. Fourteen (14) Compulsory questions. 55marks

01. What do you understand by the requirement of wholesome water? **3marks**
02. State the objectives of community water supply system. **7marks**
03. Mention the types of water demand. **5marks**
04. What is meant by PER CAPITA DEMAND? **2marks**
05. List the different types of surface water sources. **4marks**
06. List the sanitation facilities option. **4marks**
07. What is the objective of drainage system? **4marks**
08. Explain the objectives of waste water treatment. **4marks**
09. Differentiate two properties of hardness type of water. **4marks**
10. a) Define sedimentation,
b) what are the design aspects of sedimentation? **3marks**
11. Differentiate stop cocks and water taps. **4marks**
12. State the purposes of water storage in the building. **4marks**
13. List the different head losses available in pipeline. **5marks**
14. What is Domestic water demand? **2marks**

**Section II. Answer any three (3) questions of your choice
(Do not choose more than three questions). 30marks**

15. a) What are the municipal water systems (basic components of water supply) to apply to water to obtain the potable water?
b) What are the common components of water purification works? **10marks**
16. List any seven (7) activities in which the water is essential. **10marks**
17. a) What are the sources of waste water?
b) Differentiate organic waste from inorganic waste.
c) What are the three (3) major components which characterize the water bodies? **10marks**
18. a) What are the three (3) types of sub drainage systems commonly used?
b) What are the two (2) classifications of drains?
c) List any five (5) types of drainage. **10marks**
19. (a) What are the two (2) types of plastic pipes? What is the use of each?
(b) Why the higher NP (12 or 16) are sometimes avoided in water supply?
(c) Differentiate water pressure from dynamic pressure. **10marks**

**Section III. Answer any one (1) question of your choice
(Do not choose more than one question). 15marks**

20. State and explain the necessary units of water supply systems. **15marks**
21. Discuss about the three (3) methods used in computation of average precipitation or rain fall. **15marks**
22. State and explain any three (3) systems that can be used for sewers in drainage. **15marks**